

Response to Official Action

Dated 20 June 2008

Re: USSN 10/644,273

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Please amend the claims to read as indicated in the following list of claims:

1. [Currently amended] A method of processing data in a data processing system, the method comprising the steps of:

processing input data provided in the format of a data file in said data processing system in accordance with a first set of rules, which operate in said data processing system to define a stage at which such a processing operation ceases;

applying to the partly-processed data a second set of rules, which operate in said data processing system to modify the data, so that the modified data may be processed in accordance with a third set of rules and then outputted as a output data file from said data processing system, wherein the method is used to canonicalize an RDF graph expressed as said input data, the RDF graph having a plurality of blank nodes,

wherein the processing in accordance with the first set of rules include generating a representation of the RDF graph and ordering the representation, the plurality of blank nodes being substantially omitted from the ordering process, the processing in accordance with the first set of rules further including assigning a different respective label to those blank nodes that are determined, by a limited examination around each node, to be distinguishable from the other blank nodes by their respective connected features of the graph, the assignment of the labels to these blank nodes being based on an

ordering dependent on the connected features that distinguish them;

wherein the processing in accordance with the second set of rules operates to include assigning a label to each of a number of the plurality of blank nodes and modifying the portion of the the representation of the RDF graph in respect of blank nodes that remaining unlabelled; and

wherein the processing in accordance with the third set of rules includes reordering the representation, the reordered representation comprising the output data.

2. [Original] A method according to claim 1 wherein the first and third sets of rules are the same.

3. [Previously amended] A method according to claim 1 wherein the modification in accordance with the second set of rules modifies the data.

4. [Previously amended] A method according to claim 3 wherein the first and third set of rules reorder the data, but do not otherwise modify the data.

Claim 5. Cancelled.

6. [Currently amended] A method according to claim [[5]] 1 wherein the input data is a text file describing ~~an~~ the RDF graph.

Claim 7. Cancelled.

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8. [Previously amended] A method according to claim 3 wherein the modifications include the deletion of deterministic data.

9. [Previously amended] A method according to claim 3 wherein the modifications include the addition of deterministic data.

10. [Previously amended] A method according to claim 9 wherein the additions are distinguishable from data which is, prior to performance of any modifications, deterministic.

11. [Original] A method according to claim 1 wherein the data describes an ontology.

12. [Original] A method according to claim 1 further comprising the step of processing the data in accordance with the third set of rules.

13. [Original] A method according to claim 12, further comprising the step, subsequent to the processing of the data in accordance with the third set of rules, of writing or verifying a digital signature establishing authenticity of the data.

14. [Original] A method according to claim 1 wherein reapplying the method of claim 1 to data processed in accordance with such a method does not result in any further modification of the data.

15. [Currently amended] A method of canonicalizing an RDF graph having a plurality of blank nodes, the method comprising: generating a representation of the RDF graph and ordering the representation, the plurality of blank nodes being substantially omitted from the ordering process; assigning a different respective label to each of a number of the plurality of blank nodes; modifying the portion of the blank nodes remaining unlabelled; and reordering the representation.

16. [Original] A method according to claim 15, wherein the modification of the unlabelled blank nodes comprises deleting said blank nodes.

17. [Original] A method according to claim 15, wherein the modification of the unlabelled blank nodes comprises adding data to said representation such that the remaining unlabelled blank nodes can be labelled and labelling said blank nodes accordingly.

18. [Original] A method according to claim 15 wherein the representation is an N-Triple document and the ordering is in a lexicographic ordering.

19. [Currently amended] A computer program comprising program instructions embodied on a computer readable medium that, when loaded onto a computer, cause the computer to process data by: processing data in accordance with a first set of rules, which operate, ~~inter alia~~ to define a stage at which such a processing operation ceases; applying to the partly-processed data a second set

of rules, which operate to modify the data, so that the modified data may be processed in accordance with a third set of rules, wherein the computer program is used to canonicalize an RDF graph expressed as said input data, the RDF graph having a plurality of blank nodes,

wherein the processing in accordance with the first set of rules include generating a representation of the RDF graph and ordering the representation, the plurality of blank nodes being substantially omitted from the ordering process, the processing in accordance with the first set of rules further including assigning a different respective label to those blank nodes that are determined, by a limited examination around each node, to be distinguishable from the other blank nodes by their respective connected features of the graph, the assignment of the labels to these blank nodes being based on an ordering dependent on the connected features that distinguish them;

wherein the processing in accordance with the second set of rules operates to include assigning a label to each of a number of the plurality of blank nodes and modifying the portion of the blank nodes that remaining unlabelled; and

wherein the processing in accordance with the third set of rules include reordering the representation, the reordered representation comprising the output data.

Claims 20 and 21. Cancelled.

22. [Currently amended] A computer program comprising program instructions embodied on a computer readable

medium_that, when loaded onto a computer, cause the computer to canonicalize an RDF graph having a plurality of blank nodes by: generating a representation corresponding to the RDF graph and ordering the representation, the plurality of blank nodes being substantially omitted from the ordering process; assigning a different respective label to each of a number of the plurality of blank nodes; modifying the portion of the blank nodes remaining unlabelled; and reordering the representation.

Claims 23 - 24. Cancelled.

25. [Currently amended] A method of signing an RDF graph comprising the steps of: canonicalizing the graph by ordering triples from the graph and omitting blank nodes from the process of so ordering; and generating a signature in the form of a triple, wherein the method is used to canonicalize an RDF graph expressed as said input data, the RDF graph having a plurality of blank nodes, wherein a first set of rules include generating a representation of the RDF graph and ordering the representation, the plurality of blank nodes being substantially omitted from the ordering process, the first set of rules further assigning a different respective label to those blank nodes that are determined, by a limited examination around each node, to be distinguishable from the other blank nodes by their respective connected features of the graph, the assignment of the labels to these blank nodes being based on an

ordering dependent on the connected features that distinguish them;

wherein a second set of rules comprise include assigning a label to each of a number of the plurality of blank nodes and modifying the portion of the blank nodes that remaining unlabelled; and

wherein a third set of rules include reordering the representation, the reordered representation comprising the output data.

26. [Original] A method according to claim 25 further comprising the step of including the signature triple with other triples of the graph.

Claim 27. Cancelled.

28. [Previously presented] A method according to claim 1, wherein the modification of the unlabelled blank nodes comprises deleting said blank nodes.

29. [Previously presented] A method according to claim 1, wherein the modification of the unlabelled blank nodes comprises adding data to said representation such that the remaining unlabelled blank nodes can be labelled and labelling said blank nodes accordingly.

30. [Previously presented] A method according to claim 1 wherein the representation is an N-Triple document and the ordering is in a lexicographic ordering.

Claims 31-32. Cancelled.

33. [New] A method according to claim 15 wherein said number of the plurality of blank nodes to which a different respective label is assigned are those blank nodes that are determined, by a limited examination outward from each node, to be distinguishable from the other blank nodes by their respective connected features of the graph, the assignment of the labels to these blank nodes being based on an ordering dependent on the connected features that distinguish them.

34. [New] A method of canonicalizing an RDF graph having a plurality of blank nodes, comprising:

generating a representation of the RDF graph;

assigning a different respective label to those blank nodes of the graph that are determined, by a limited examination around each node, to be distinguishable from the other blank nodes by their respective connected features of the graph, the assignment of the labels to these blank nodes being based on an ordering dependent on the connected features that distinguish them;

modifying blank nodes remaining unlabelled; and
ordering the representation.